MARYLAND DEPARTMENT OF THE ENVIRONMENT
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MDE Remarks
Upper Crossroads Public Meeting
Fallston, Maryland
6/21/04

My name is Herb Meade, Program Administrator for the Oil Control Program of the Maryland Department of the Environment. First, let me apologize to the community for the insufficient communication during this investigation. This has caused an alarm in the community that should have never occurred. For this we are sorry and as your representatives, steps have already been taken to improve communication with the community in regard to this matter.

The Maryland Department of the Environment'sOil Control Program is the State regulatory agency responsible for the storage, transportation and remediation of petroleum product in the State of Maryland. The Oil Control Program is a federally authorized program. This means we receive support from, and act on behalf of, the United States Environmental Protection Agency in regard to underground storage systems. We are headquartered in Baltimore and have a field staff of 4 geologists and 23 Environmental Compliance Specialists. Our staff has over 3,000 open/active petroleum release cases within our State. We have 1 Specialist assigned to Harford County; she currently has 200 open cases. Our Harford County Specialist is supported by one geologist and a supervisor who are both responsible for 7 counties, with similar caseloads.

MDE has been working to evaluate the impact of methyl tertiary-butyl ether (MTBE) in off site wells in the vicinity of Upper Crossroads. MTBE is a gasoline

additive. It was first introduced into gasoline in the mid 1970's as an anti-knock or octane-enhancing compound to assist in the replacement of leaded gasoline. The amount of MTBE used in gasoline was increased in the 1990s to assist with requirements set forth in the Clean Air Act. Today MTBE is 11 to 15% by volume of the gasoline used in Maryland.

MDE has, and continues to coordinate, the investigation in the Upper Crossroads area with the Harford County Health Department, ExxonMobil, and its consultant, Groundwater and Environmental Services Inc. A great deal of our investigation has focused on the Exxon Station, which has been operating since 1987. The station currently operates four underground storage tank systems. Inspections performed by MDE have found that the active storage systems are in full compliance with State and federal storage regulations. Exxon has performed numerous test and system enhancements to ensure the tightness of the active systems. Based on our inspections and Exxon's actions, the current active storage systems at the station do not warrant a shutdown order by this Department. This decision is further supported by the addition of a Soil Vapor Extraction (SVE) system that has been installed by ExxonMobil on the storage tank pit. The SVE system is designed to purge the immediate pit area of MTBE or other volatiles and intercept any small, undetected vapor releases. The Department will closely monitor this SVE system, as well as the active storage tanks.

Our first investigation at the Exxon site occurred in October 1991, in response to a Harford County Health Department sampling, when 90 ppb of MTBE was found in the drinking water well at the Exxon station and 8 ppb was found at the WAWA store. MDE required ExxonMobil to conduct an investigation at the site. Three monitoring wells were installed and soil and groundwater samples were collected.

This investigation revealed that all subsurface sampling results were below the detection limits for all gasoline constituents. Subsequently, the site drinking water well tested at 9.5ppb of MTBE. Since this well result was below the State action level, which at that time was 50ppb for MTBE, and surrounding drinking water wells were non-detect for MTBE, the Department closed its case.

Our second investigation of the site was opened in December 1998, when Harford County Health Department sampling again revealed elevated levels of MTBE in the groundwater. The highest level was 126 parts per billon at the former Mama Libera's restaurant. Surrounding drinking water well samples were all below 20 ppb MTBE, the current State action level. The Department directed ExxonMobil to install a carbon filtration system at Mama Libera's and to sample the additional drinking water wells at neighboring properties.

The groundwater in the vicinity of the Exxon Station has been monitored since 1998 on an annual basis. The annual sampling revealed one additional off site impact in 2000 when another commercial property was identified with MTBE concentrations at 92 ppb. Because of this new discovery, MDE required ExxonMobil to install a filtration system on the impacted well and to conduct further subsurface investigation to delineate the extent of the MTBE contamination and any other petroleum compound in the groundwater.

In August 2003 MDE directed Exxon-Mobil to install four new monitoring wells on the service station property. Sampling of these monitoring wells confirmed the presence of MTBE in the shallow groundwater on the ExxonMobil property. No other petroleum compound was discovered in the monitoring well sampling.

In October 2003, ExxonMobil submitted an Environmental Subsurface Investigation Report to MDE. Based on the results of this investigation, the groundwater-monitoring program for off-site domestic wells was expanded to include several commercial and residential properties within the immediate vicinity of the service station.

MDE concentrated the investigation to the south of the Exxon Station because monitoring well data indicated that the shallow groundwater flow in the area of the Exxon service station is to the south. However, the groundwater flow in the general area is controlled by subsurface rock fractures and the exact directional flow is unknown at this time and cannot be determined until a detailed fracture study can be performed.

Drinking water sampling in May 2004 confirmed additional impacts of MTBE in off-site wells ranging between 1 and 7 ppb, with the exception of one well located immediately behind the ExxonMobil property, which had a concentration at over 300 ppb. The May findings prompted the Department to require ExxonMobil to begin sampling additional wells within a half-mile radius of the service station to better establish the total extent of MTBE in the Upper Ccrossroads area.

161 Drinking water wells have been identified within a half-mile radius of the ExxonMobil station. The Exxon representative will discuss the results of the radius sampling during his presentation.

The ExxonMobil has been the focus of our investigation and the Department is convinced that they are a source of at least part of the MTBE in the Upper Crossroads area. This is supported by the 26,000 ppb found in the Exxon tank

field and 3,700 ppb found in a monitoring well just outside the tank field. Sampling performed on May 28th has shown a decline in these numbers to 3,448 ppb in the tank field and 1,520 in the closest monitoring well. Despite our focus on the Exxon station, I wish to make it clear that there are other potential sources of MTBE within the half-mile radius of the Exxon Service Station. MDE has several closed cases on sites, mainly south of the station, where underground storage systems were removed. These sites are being reviewed to see if they are contributors to the MTBE issue. We are also faced with the possible contribution of MTBE to the groundwater by home heating oil tanks (yes, MTBE is now found in heating oil), auto repair, and other petroleum handling activities.

This investigation will continue until area trends are established and a corrective action that is protective of public health is formulated. As, I stated at the beginning, the Department will work with you and your local officials to ensure that information is shared and readily available.

After the presentation by Exxon Mobil my colleague, Yolande Norman, will discuss the expectations and time frames MDE will place on ExxonMobil regarding this matter.